

## APPENDIX X

InformUpdateProcess(status) (\* macro, describes interface to update process \*)  
(\*If status = new, update process sends entire forwarding table.\*)  
(\*If status = free, update process sends next update \*)

### Protocol Actions at Server to Send Updates Reliably

NEW\_UPDATE(L, B) (\* routine called by update process to send new update B \*)  
    With LinkArray[L] DO  
        Buffer:= B (\* store update for possible retransmission \*)  
        SendUpdate(L, ServerId, ConnectId, SequenceNumber, Buffer)  
        StartRetransmitTimer(L,RetransmitTimerValue)  
        Retransmits:= 0;

RETRANSMIT\_TIMER\_EXPIRY(L) (\* called when retransmit timer expires \*)  
    With LinkArray[L] DO  
        If Retransmits  $\geq$  MaxRetransmits then RestartConnection(L)  
    Else  
        SendUpdate(L, ServerId, ConnectId, SequenceNumber, Buffer)  
        StartRetransmitTimer(L,RetransmitTimerValue)  
        Retransmits:= Retransmits + 1;

RECEIVE(L, Ack) (\* called when an ack is received \*)  
    With LinkArray[L] DO  
        If Ack.ConnectId = ConnectId and Ack.ServerId = ServerId and  
            Ack.SequenceNumber = SequenceNumber then  
            If SequenceNumber is at maximum value then RestartConnection(L);  
        Else (\* packet received by client, and can send next update \*)  
            SequenceNumber:= SequenceNumber + 1;  
            StopRetransmitTimer;

InformUpdateProcess(free);

(\* ready to receive next update \*)